

Claims:

1 - 6. (withdrawn)

7. A locking nut and bolt system comprising:

a bolt having a bolt stem along an axial centerline and a bolt thread formed on said bolt stem, said bolt thread defining bolt thread crests and bolt thread troughs;

a plurality of notches defined on said bolt thread generally longitudinally in a predetermined pattern with proximal notches being longitudinally adjacent each other on said bolt thread, each notch having a lock face and an opposing slope;

a nut having a nut thread defined in an internal passageway and an end face, said nut thread being complementary to said bolt thread;

a recess defined on said end face of said nut and a shoulder defined on a periphery of said recess below said nut end face;

a nut insert disposed in said recess on said shoulder, said nut insert having a planar body defined as a peripheral ring about said nut thread, said nut insert having at least one tine depending from said planar peripheral ring body in a substantially tangential plane with respect to said axial centerline of said bolt, said tine having a distal tine end adapted to latch on said lock face of said notch and a proximal tine portion adjacent said peripheral planar body of said nut insert;

said planar peripheral ring defining a radial free space axially there below in said nut recess such that said distal tine end of said axially tangential tine moves radially inward when said distal tine end is disposed in one or more notches and moves radially outward into said radial free space when said distal tine end rides on said bolt thread crest, and said lock face of said notch preventing

counter-rotational movement of said bolt with respect to said nut when said distal tine end abuts said lock face.

8. A locking nut and bolt system as claimed in claim 7 wherein said planar peripheral ring defines one of a key and a keyway and said nut recess defines one of a complementary keyway and a complementary key thereby permitting circumferential alignment of said nut insert with respect to said nut.

9. A locking nut and bolt system as claimed in claim 7 wherein said nut insert includes a plurality of tines circumferentially disposed about a radially inward edge of said planar peripheral ring of said nut insert, each tine having a respective planar body which is generally tangentially disposed with respect to said axial centerline and said respective distal tine end angularly disposed and radially inwardly disposed away from said tine planar body.

10. A locking nut and bolt system as claimed in claim 7 wherein said nut insert includes a plurality of tines circumferentially disposed and wherein said planar peripheral ring of said nut insert includes a corresponding planar support plate for each of said plurality of tines, each said planar support plate extending radially inward toward said axial centerline thereby creating said radial free space for the radial movement of said tine there beneath and radially spacing said movable tine away from said shoulder of said recess.

11. A locking nut and bolt system as claimed in claim 10 wherein said planar peripheral plate includes an outer peripheral planar section from which extends said corresponding planar support plates, said outer peripheral planar section having a radial dimension substantially equivalent to said shoulder in said recess.

12 A locking nut and bolt system as claimed in claim 7 wherein said plurality of notches are longitudinally aligned.

13. A locking nut and bolt system as claimed in claim 7 wherein said plurality of notches are disposed in a spiral on said bolt thread.

14 - 22. (previously cancelled)

23 - 32. (withdrawn)

33 - 38. (previously cancelled)

38 - 86. (withdrawn).